IN THE CLAIMS:

Please cancel claims 1-13 and 22 without prejudice.

Amended Claims

21. (Amended) A computer system comprising:

a central processing unit (CPU);

a memory; and

a graphics system, wherein said CPU, said memory and said graphics system are coupled by one or more buses, and wherein said graphics system comprises:

a control unit configured to receive compressed 3D geometry data, wherein said compressed 3D geometry data comprises a plurality of blocks; and

a plurality of decompress pipelines, wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines, wherein each block comprises compressed vertex information, and wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices;

wherein said control unit is configured to detect control information embedded within said compressed 3D geometry data, and wherein said control unit is configured to route said compressed 3D geometry data to one or more of said decompress pipelines according to said embedded control information.

New Claims

23. (New) A graphics system comprising:

a control unit configured to receive compressed 3D geometry data, wherein said compressed 3D geometry data comprises a plurality of blocks; and

a plurality of decompress pipelines, wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines, wherein each block comprises compressed vertex information, wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices, wherein said decompress pipelines are configured to cache said blocks of compressed vertex

information to a memory, and wherein said decompress pipelines are further configured to retrieve said cached blocks of compressed vertex information from said memory in a just-in-time manner.

24. (New) The graphics system as recited in claim 23, wherein said control unit is configured to route said blocks to said one or more of said decompress pipelines in a just-in-time manner.

25. (New) The graphics system as recited in claim 23, wherein each decompress pipeline is coupled to one or more transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system.

26. (New) The graphics system as recited in claim 25, wherein each transform unit is coupled to a lighting unit configured to perform one or more vertex processes on said transformed vertices, and wherein each lighting unit is coupled to one or more setup units, wherein said setup units each comprise a transformed vertex memory, wherein each setup unit is configured to store selected processed vertices into said transformed vertex memory, and wherein each setup unit is configured to reuse said selected processed vertices stored in said transformed vertex memory to form said geometric primitives.

27. (New) The graphics system as recited in claim 23, wherein each decompress pipeline is coupled to one or more set up units configured to transform said vertices and assemble geometric primitives from said transformed vertices, wherein each setup unit comprises a transformed vertex memory, wherein each setup units is configured to store vertices into said transformed vertex memory, and wherein said setup units are configured to reuse said transformed vertices stored in said transformed vertex memory to form geometric primitives.

28. (New) The graphics system as recited in claim 27, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong.

29. (New) The graphics system as recited in claim 27, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong, wherein there are no state changes between vertices.

30. (New) The graphics system as recited in claim 27, wherein said lighting units are configured to perform lighting calculations independently of the geometric primitives to which said vertices belong.

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31. (New) The graphics system as recited in claim 27, wherein said vertices are subjected to one or more vertex processes before being stored into said transformed vertex memory and before being used to form geometric primitives.

32. (New) The graphics system as recited in claim 27, wherein said transformed vertices stored in said transformed vertex memory comprise xyz position information, color information, and transparency information.

33. (New) The graphics system as recited in claim 32, wherein said transformed vertices further comprise additional per-graphics primitive attributes.

34. (New) A graphics system comprising:

a control unit configured to receive compressed 3D geometry data, wherein said compressed 3D geometry data comprises a plurality of blocks; and

a plurality of decompress pipelines, wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines, wherein each block comprises compressed vertex information, wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices;

wherein said control unit is configured to route said blocks to said one or more of said decompress pipelines in a just-in-time manner.

35. (New) The graphics system as recited in claim 34,

wherein said decompress pipelines are configured to cache said blocks of compressed vertex information to a memory.

36. (New) The graphics system as recited in claim 34,

and wherein said decompress pipelines are further configured to retrieve said cached blocks of compressed vertex information from said memory in a just-in-time manner.

37. (New) The graphics system as recited in claim 34, wherein each decompress pipeline is coupled to one or more transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system.

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38. (New) The graphics system as recited in claim 37, wherein each transform unit is coupled to a lighting unit configured to perform one or more vertex processes on said transformed vertices, and wherein each lighting unit is coupled to one or more setup units, wherein said setup units each comprise a transformed vertex memory, wherein each setup unit is configured to store selected processed vertices into said transformed vertex memory, and wherein each setup unit is configured to reuse said selected processed vertices stored in said transformed vertex memory to form said geometric primitives.

39. (New) The graphics system as recited in claim 34, wherein each decompress pipeline is coupled to one or more set up units configured to transform said vertices and assemble geometric primitives from said transformed vertices, wherein each setup unit comprises a transformed vertex memory, wherein each setup units is configured to store vertices into said transformed vertex memory, and wherein said setup

units are configured to reuse said transformed vertices stored in said transformed vertex memory to form geometric primitives.

40. (New) The graphics system as recited in claim 39, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong.

41. (New) The graphics system as recited in claim 39, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong, wherein there are no state changes between vertices.

42. (New) The graphics system as recited in claim 39, wherein said lighting units are configured to perform lighting calculations independently of the geometric primitives to which said vertices belong.

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43. (New) The graphics system as recited in claim 39, wherein said vertices are subjected to one or more vertex processes before being stored into said transformed vertex memory and before being used to form geometric primitives.

44. (New) The graphics system as recited in claim 39, wherein said transformed vertices stored in said transformed vertex memory comprise xyz position information, color information, and transparency information.

45. (New) The graphics system as recited in claim 39, wherein said transformed vertices further comprise additional per-graphics primitive attributes.

46. (New) A graphics system comprising:

a control unit configured to receive compressed 3D geometry data, wherein said compressed 3D geometry data comprises a plurality of blocks; and

a plurality of decompress pipelines, wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines, wherein each block comprises compressed vertex information, wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices, wherein each decompress pipeline is coupled to one or more transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system, wherein each transform unit is coupled to a lighting unit configured to perform one or more vertex processes on said transformed vertices, and wherein each lighting unit is coupled to one or more setup units, wherein said setup units each comprise a transformed vertex memory, wherein each setup unit is configured to store selected processed vertices into said transformed vertex memory, and wherein each setup unit is configured to reuse said selected processed vertices stored in said transformed vertex memory to form said geometric primitives.

47. (New) A graphics system comprising:

a control unit configured to receive compressed 3D geometry data, wherein said compressed 3D geometry data comprises a plurality of blocks; and

a plurality of decompress pipelines, wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines, wherein each block comprises compressed vertex information, wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices, wherein each decompress pipeline is coupled to one or more set up units configured to transform said vertices and assemble geometric primitives from said transformed vertices, wherein each setup unit comprises a transformed vertex memory, wherein each setup units is configured to store vertices into said transformed vertex memory, and wherein said setup units are configured to reuse said transformed vertices stored in said transformed vertex memory to form geometric primitives.

48. (New) The graphics system as recited in claim 47, wherein said decompress pipelines are configured to cache said blocks of compressed vertex information to a memory.

49. (New) The graphics system as recited in claim 48, wherein said decompress pipelines are configured to retrieve said cached blocks of compressed vertex information from said memory in a just-in-time manner.

50. (New) The graphics system as recited in claim 47, wherein said control unit is configured to route said blocks to said one or more of said decompress pipelines in a just-in-time manner.

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51. (New) The graphics system as recited in claim 47, wherein each decompress pipeline is coupled to one or more transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system.

52. (New) The graphics system as recited in claim 51, wherein each transform unit is coupled to a lighting unit configured to perform one or more vertex processes on said transformed vertices, and wherein each lighting unit is coupled to one or more setup units, wherein said setup units each comprise a transformed vertex memory, wherein each setup unit is configured to store selected processed vertices into said transformed vertex memory, and wherein each setup unit is configured to reuse said selected processed vertices stored in said transformed vertex memory to form said geometric primitives.

53. (New) The graphics system as recited in claim 47, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong.

54. (New) The graphics system as recited in claim 47, wherein said transform units are configured to receive and transform vertices independently of the geometric primitives to which said vertices belong, wherein there are no state changes between vertices.

55. (New) The graphics system as recited in claim 47, wherein said lighting units are configured to perform lighting calculations independently of the geometric primitives to which said vertices belong.

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56. (New) The graphics system as recited in claim 47, wherein said vertices are subjected to one or more vertex processes before being stored into said transformed vertex memory and before being used to form geometric primitives.

57. (New) The graphics system as recited in claim 47, wherein said transformed vertices stored in said transformed vertex memory comprise xyz position information, color information, and transparency information.

58. (New) The graphics system as recited in claim 57, wherein said transformed vertices further comprise additional per-graphics primitive attributes.